MIMAR GALLERY

Houses of Upper Volta

Jean Paul Bourdier has prepared especially for MIMAR a study of Gurunsi houses in Upper Volta. The author completed the original study three years ago in collaboration with students from the School of Architecture of Dakar, Senegal. It was aimed at discovering for architects in West Africa alternative sources of inspiration to the Greek Order values taught by Beaux Arts-educated teachers.

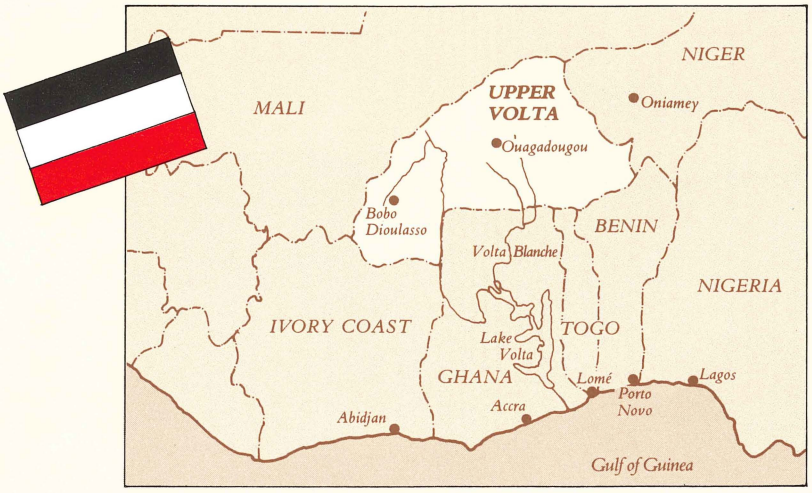
Bourdier, a Frenchman, left Senegal and is now teaching at the Department of Architecture at the University of California, Berkeley.

The text, photographs and drawings presented here are excerpted from the study by Jean Paul Bourdier with Nddngo Athj, Innocent Bimenyimana, Trinh Thi Minh-Ha Bourdier, Makhtar Faye, El Hadj Malik Gaye, Sharon Murray, Mame Didulame Seye and N dary Toure.

Photograph above: Exterior decoration on a Kussace house in Yuga.

In a time when we realise the significance of a subsistence economy it is important to understand the technological and sociological value of vernacular architecture — an architecture by people, done without commercial considerations. This new sympathy does not imply that we should currently imitate it, but to consider it for a constant questioning and refining of solutions for present architectural projects.

A number of problems generated by industrial production in Western societies are reflected in many "modern" housing schemes. The absence of territoriality and natural surveillance, the lack of transition from public



Republic of Upper Volta

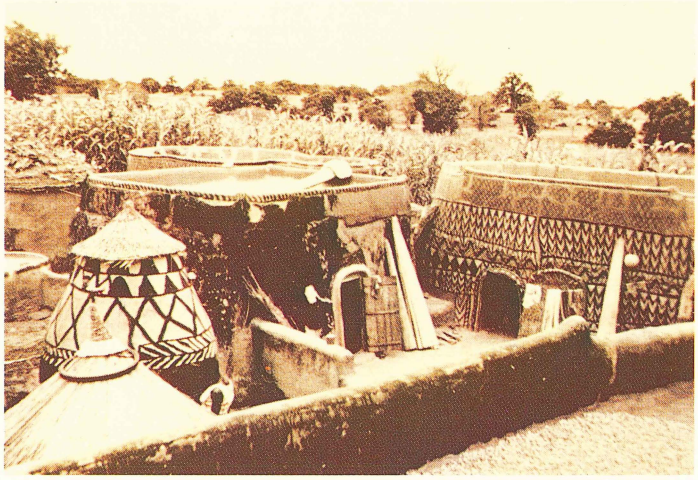
Area: 274,200 square kilometres (105,869 square miles)
Population: 6,815,000
Capital: Ouagadougou; population 173,000
History: Descendants of Mossi warriors, who rejected conversion to Islam in the 11th century, make up half the population today. Population pressures on the drought-prone savannas of the Sahel, drive farmers into neighbouring countries as seasonal labour. Landlocked Upper Voltans depend on a railroad lifeline to the Ivory Coast. Independence from France came in 1960. A military government stepped aside in 1978 in favour of civilian rule.
Religions: Traditional, Muslim, Christian.
Languages: French, Mossi, Lobi, Samo, Gourounsi.
Literacy: 10%.
Life expectancy: 42 years.
Economy: Industries — food processing, textiles. Export crops — cotton, shea nuts, livestock. Domestic consumption — sorghum, millet, corn.
Per capita income: US$180.

to private space, the insufficiency of children's play space, and the failure to integrate old people into everyday activities are among the environmental/sociological problems. Identical processes are observable in African urban areas and in an ever-growing number of rural settlements.

Low-rise buildings within high-density developments, interior private courtyards, self-help building, expandable units, and passive energy systems are concepts now studied and praised in the West which have been used for centuries in African, Middle Eastern and Southeast Asian architectures. But few of these studies in architectural anthropology have been used to improve new African towns or rural settlements. What other than military and sanitary concerns can we trace in the French colonial planning of towns in Senegal, Mali or Upper Volta? In what way is the present use of square-grid planning, wide streets for cars, and high or middle-rise housing adapted to African patterns of living?

The condescension implied by such a word as "primitive" architecture — associated with the idea that sophistication and complexity is progress — has contributed to the lack of confidence, by many ethnic groups, in their own cultural background. As a consequence, similar to buying outdated surplus goods from the West, many African cultures are adopting the same patterns of living that the West is now finding unsuitable for itself. Aside from the long-term material drawbacks, the social and psychological side effects are bound to be at least as great as in the West since the gap between tradition and modernism is larger in Africa, and the time for adaptation to change much shorter.

Traditionally the sub-Saharan adobe house is built and maintained by the whole family during the dry season when no farming takes place. With the import of new ideas, such as having specialised labour to build a house with "modern" materials like concrete blocks and zinc sheet roofing, vernacular architecture is disappearing at an alarming speed. Very few of the houses presented here are still standing.



Kassena dwellings at Tangassoko

Top: A typical decorated house. This structure in a larger compound is the man's unit. Note the low entrance and the ladder to the right which gives access to the roof terrace.
Above: Men's quarters. The exterior of the men's units are more elaborately decorated than the women's. The black colour infill in the patterns is of asphalt which replaces the old traditional grey-black colour obtained from ground stone.

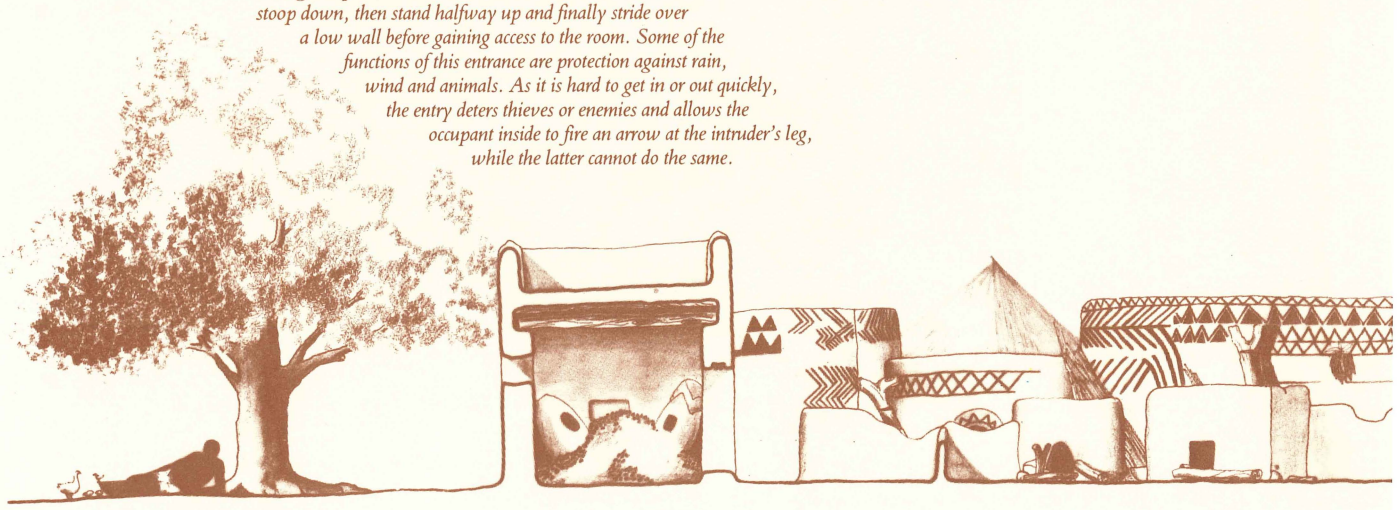
In order to avoid an analysis centred on Western values, we tried in our survey to retrieve the significance and root of local words used to designate an object or a space. We noticed that a number of terms such as "head" or "mouth of the house" denoted anthropomorphic symbolism; none of these terms, however, ever referred to a specific function such as cooking, eating or sleeping. In observing the various ethnic groups which constitute the Gurunsi people, we found that the main space in the house is multi-functional. It is used for sleeping, storing goods, eating, meeting friends, spinning cloth, weaving baskets, and as play-space for children. On the other hand, during certain months of the dry season, the adjacent courtyard is used for the same activities. Any family member can use these two spaces at any time of the day or night: this creates a web of visual, auditory and tactile relationships which can hardly be described by definite functional words as the ones used above. It is probably to such a variety of visible and non-visible links that people refer when they use the term "organic" architecture.

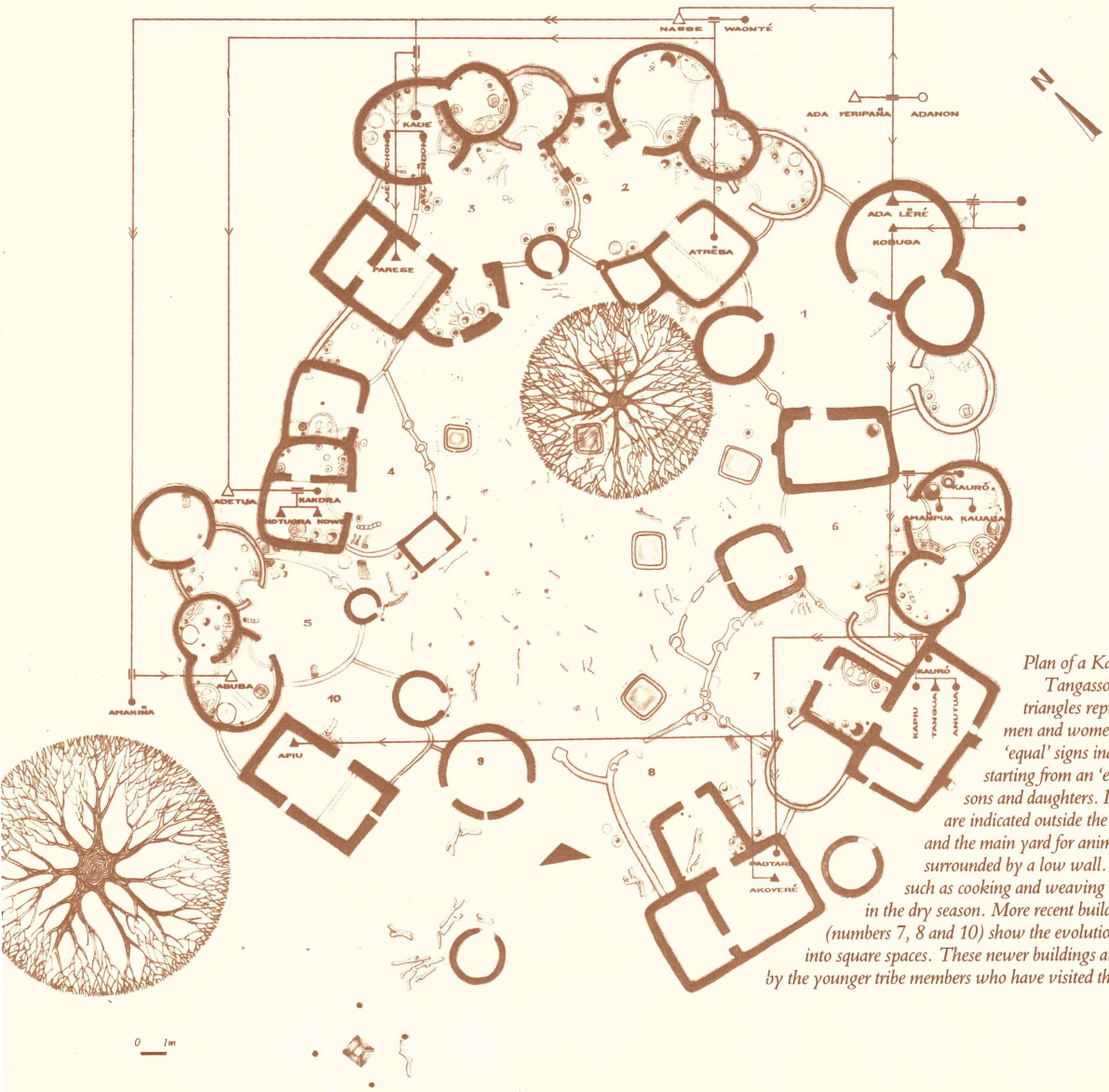
The labelling of each family's genealogical tree directly onto the plans we drew was also an attempt to not reduce definition of spaces to mere function but to relate them to the building's evolution, the densities of occupation and the development of the family structure.

The study of this foreign culture kept our minds alert to the subtlety of codes we had to decipher in order to avoid misinterpreting the local flow of life. It allowed us to observe and question our ingrained concepts with renewed eyes. For example, the observation of a Kassena tribe member's house raised several points, such as the reasons for its low and rather torturous entrance: Why such an entry? Once inside the house one could also wonder why there is such a low intensity of light, or why the tactile seems emphasised over the visual. Trying to understand even one element of that environment is like trying to comprehend a person: it leads to the realisation that everything is inter-related and the exploration and questioning is a never ending chain.

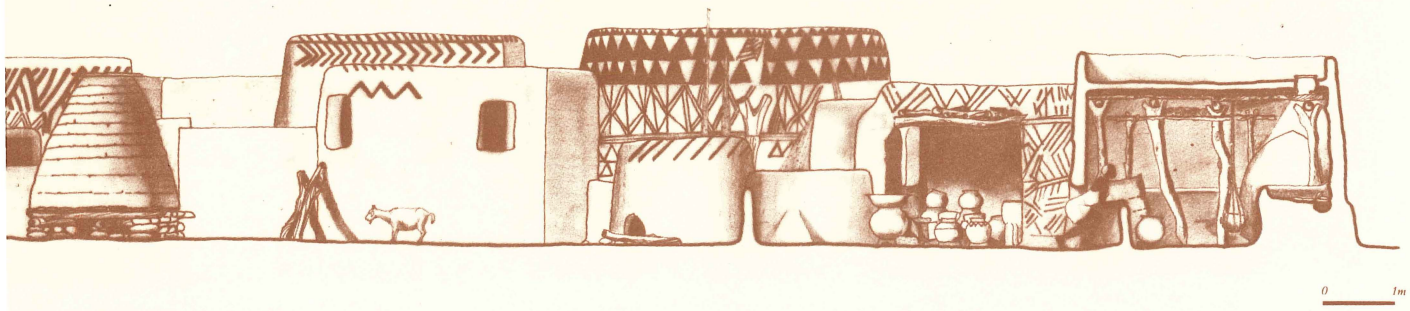
In the vernacular architecture of Upper Volta careful attention is given to details and transitions, since man is the measure of the surroundings. Questioning each element of this architecture can reveal the accumulated experience and wisdom of several generations: it challenges our habits of solving building problems and widens our architectural framework of reference.

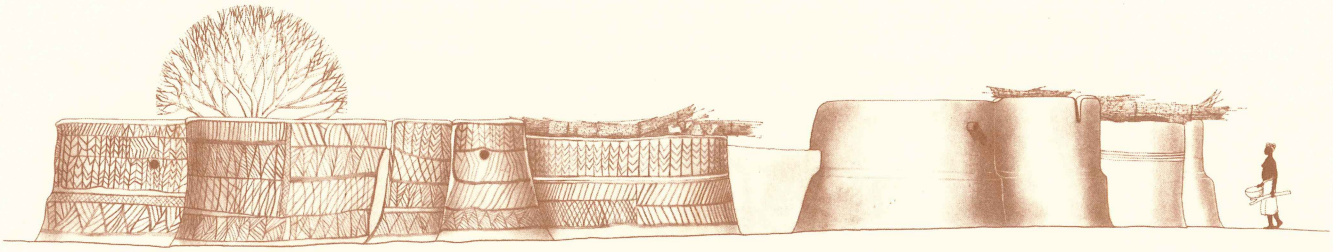
Section of a Kassena compound in Tangassoko. The main space on the right depicts the 'mouth' entrance where one has to stoop down, then stand halfway up and finally stride over a low wall before gaining access to the room. Some of the functions of this entrance are protection against rain, wind and animals. As it is hard to get in or out quickly, the entry deters thieves or enemies and allows the occupant inside to fire an arrow at the intruder's leg, while the latter cannot do the same.





Plan of a Kassena compound in Tangassoko. The black circles and triangles represent individual living men and women. Double arrow lines and 'equal' signs indicate marriage. Single arrows starting from an 'equal' sign indicate sons and daughters. People having left the compound are indicated outside the plan. Between the living units and the main yard for animals is another courtyard surrounded by a low wall. In this court, inside activities such as cooking and weaving take place in the dry season. More recent buildings (numbers 7, 8 and 10) show the evolution of the house into square spaces. These newer buildings are built by the younger tribe members who have visited the city.





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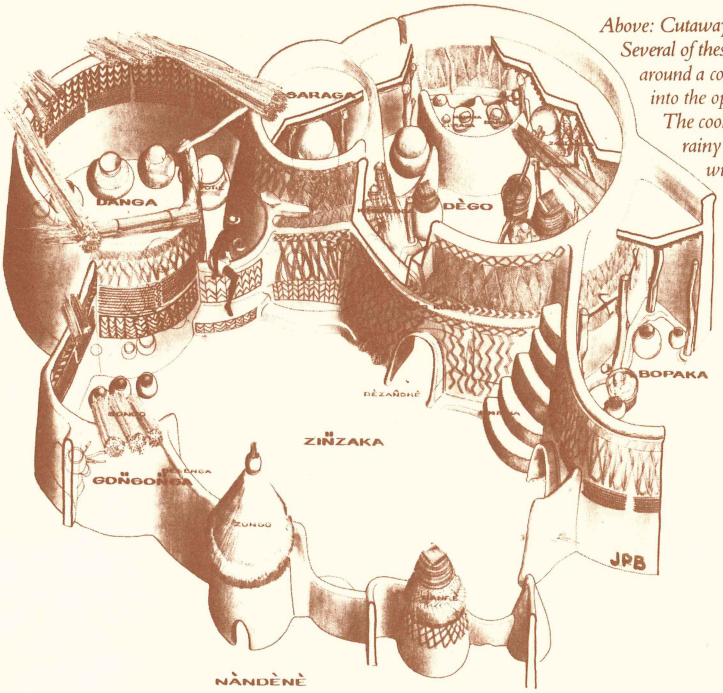
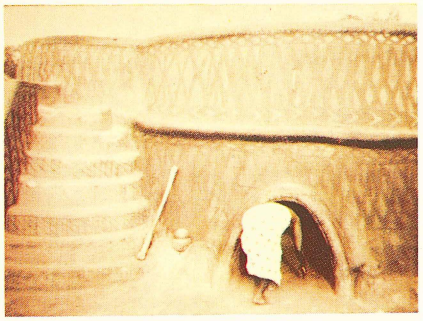
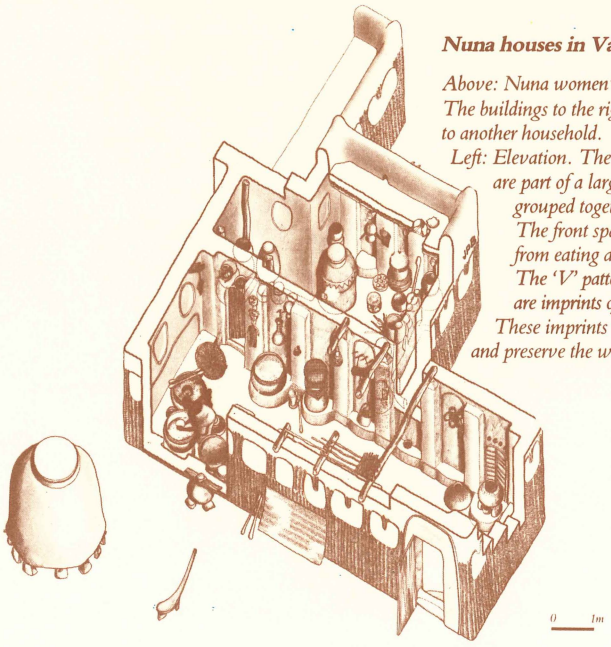


Nankana dwellings at Yuka

Above: Cutaway of a woman's dwelling space. Several of these units are located in a circle around a courtyard. Animals are not allowed into the open tamped court (zinzaka). The cooking area (saraga) used in the rainy season moves to the danga, covered with millet stems, in the dry season or eventually to the gongonga for important gatherings on special occasions. The stairs expand to the roof, the area for sleeping or drying grains. During the day the temperature can reach 48°C but the inside temperature is about 8°C lower. Left: Elevation. The small, round openings have appeared in the past few decades since cessation of tribal rivalries.



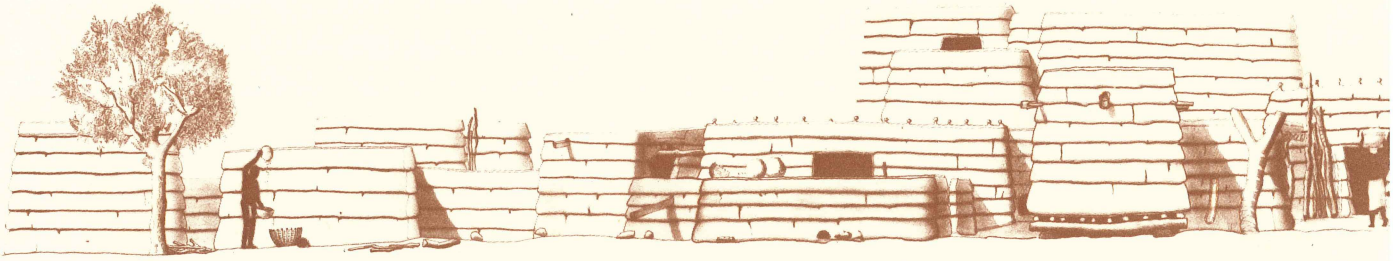
Left: House. The horizontal adobe strip reinforces the wall and prevents vertical cracking from settlements.
Above: The large staircase to the roof at the house allows easy access and carrying of goods. The low entrance is typical of Upper Voltan vernacular architecture.



Nuna houses in Valiou village

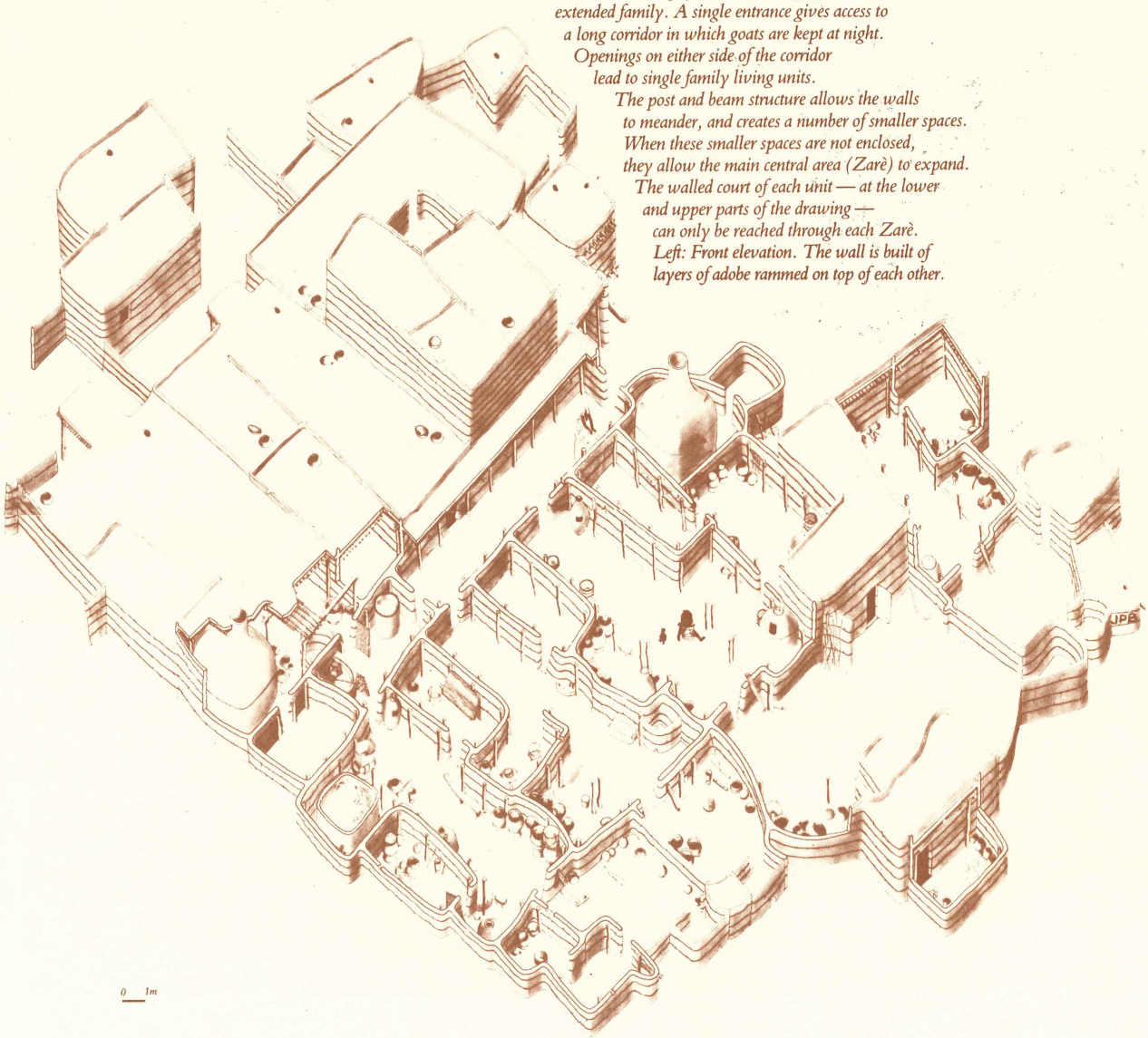
Above: Nuna women's quarters. The buildings to the right belong to another household.

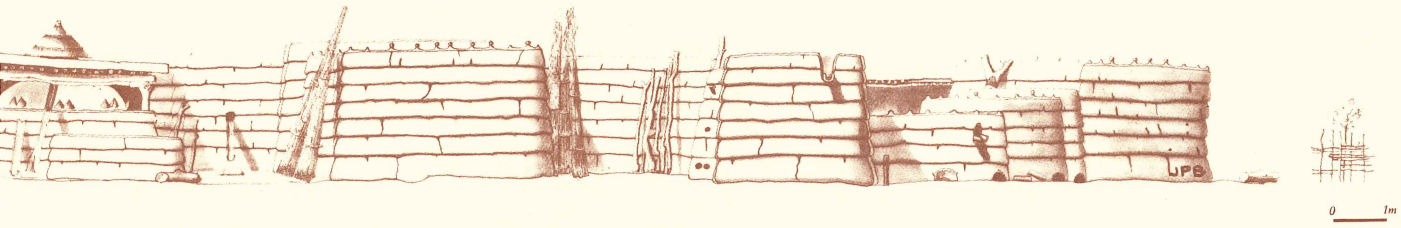
Left: Elevation. The two adjacent spaces are part of a larger settlement of thirty houses grouped together in a random pattern. The front space is multi-functional, from eating and sleeping to receiving visitors. The 'V' patterns on the exterior adobe wall are imprints of segmented dried corn cobs. These imprints indicate the inhabitant's clan group and preserve the wall from rain erosion.

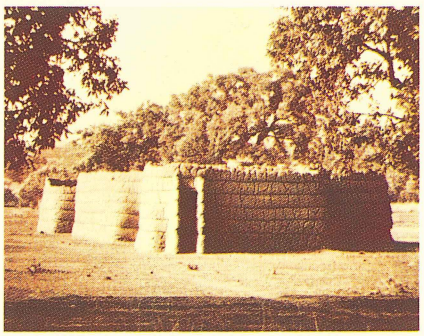


Pougouli house at Niemo

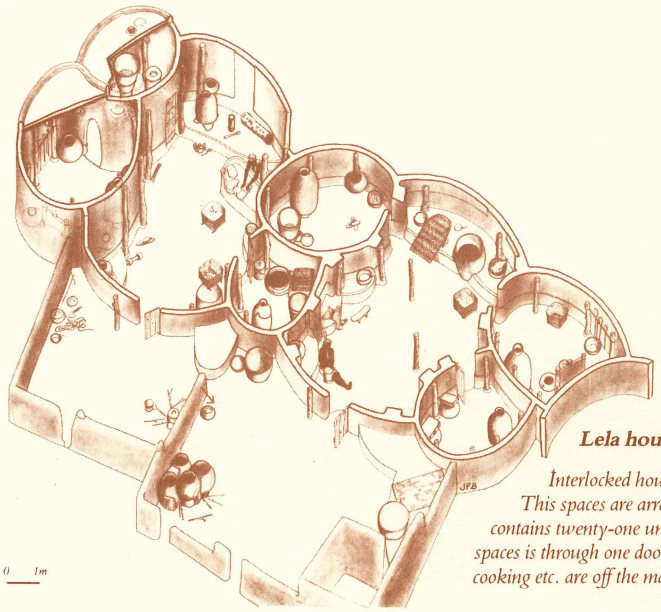
Above: Cutaway of a house, belonging to an extended family. A single entrance gives access to a long corridor in which goats are kept at night. Openings on either side of the corridor lead to single family living units. The post and beam structure allows the walls to meander, and creates a number of smaller spaces. When these smaller spaces are not enclosed, they allow the main central area (Zarè) to expand. The walled court of each unit — at the lower and upper parts of the drawing — can only be reached through each Zarè. Left: Front elevation. The wall is built of layers of adobe rammed on top of each other.





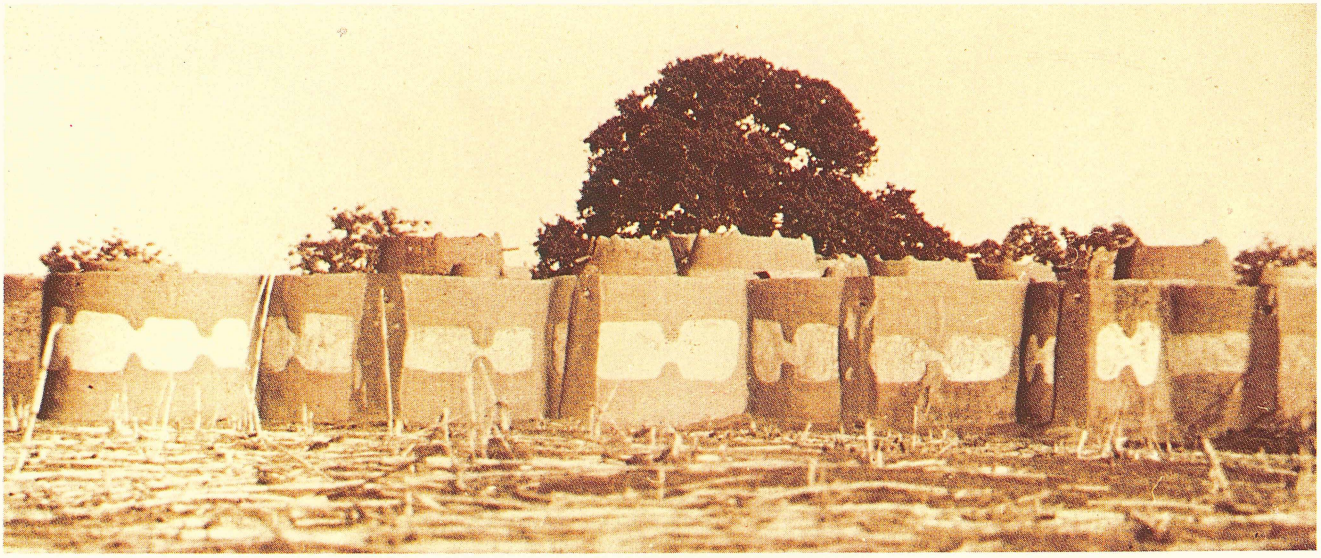


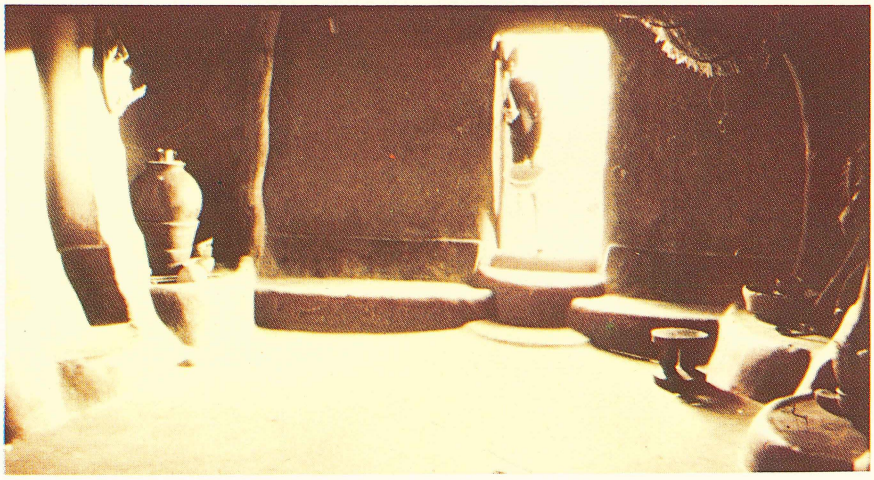
Left: A grain silo at Niemo. The grain is poured into it from the top.
Above: House.



Lela houses in Poa village

Interlocked houses of two Lela women. This spaces are arranged in a circle which contains twenty-one units. Access to the main interior spaces is through one door. Other spaces for storage, cooking etc. are off the main areas.





Above: The exterior elevation of a compound. The white areas are painted with ash. They indicate the owner's clan, reflect the hot sun's rays and serve as an insect repellent.
Left: The interior of the main space of a Lela woman's quarters. The floor is always below the natural ground level — the excavated earth is tamped onto the roof. Ledges of earth are left along the walls to provide sitting and storage areas.